

# PS9000 Series

## OEM silicon stainless steel pressure sensor

### FEATURES

- 0...5 psi to 0...500 psi gage  
-15...15 psi to -15...100 psi gage  
0...15 psi to 0...500 psi absolute
- Calibrated and temperature compensated
- Small size
- Field interchangeable
- Reliable semiconductor technology

### SERVICE

Pressure inlet: all media compatible with stainless steel 1.4401 (316)<sup>9</sup>

Housing: stainless steel, protection class IP54, according to DIN40050 respectively NEMA4X<sup>1</sup>



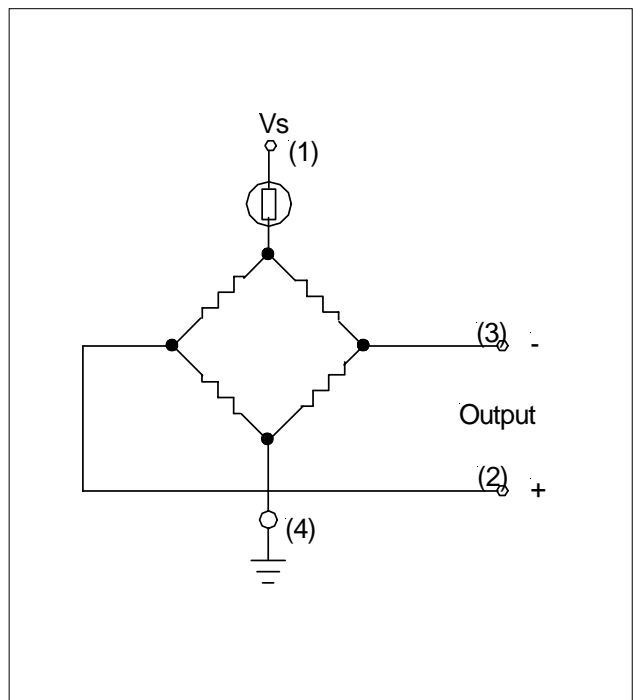
Scale: 1 cm  
1 inch

### SPECIFICATIONS

#### Maximum ratings

Supply voltage	15 V
Temperature limits	
Storage	-55°C to 100°C
Operating	-40°C to 100°C
Compensated	0°C to 82°C
Humidity limits	0 - 98 %RH
Vibration (5 Hz to 500 Hz)	10 g <sub>RMS</sub>
Mechanical shock	50 g for 11 msec
Life	min. 1 million cycles
Insulation resistance at 50 V <sub>DC</sub>	min. 100 MΩ

### ELECTRICAL CONNECTION



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### PRESSURE RANGE SPECIFICATIONS

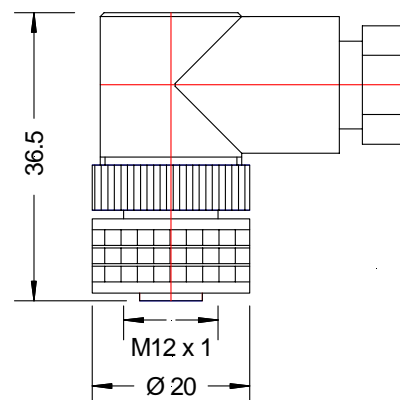
Part no.	pressure range	proof pressure <sup>2</sup>	burst pressure <sup>3</sup>
PS9005G...	0 ... 5 psig	15 psig	25 psig
PS9010G...	0 ... 10 psig	30 psig	45 psig
PS9015(A,G)...	0 ... 15 psi	45 psi	75 psig
PS9015V...	-15 ... 15 psig	45 psig	75 psig
PS9030(A,G)...	0 ... 30 psi	90 psi	150 psi
PS9030V...	-15 ... 30 psig	90 psig	150 psig
PS9050(A,G)...	0 ... 50 psi	150 psi	250 psi
PS9100(A,G)...	0 ... 100 psi	300 psi	300 psi
PS9100V...	-15 ... 100 psig	300 psig	300 psig
PS9200(A,G)...	0 ... 200 psi	600 psi	1000 psi
PS9300(A,G)...	0 ... 300 psi	900 psi	1500 psi
PS9500(A,G)...	0 ... 500 psi	1200 psi	2400 psi

### PERFORMANCE CHARACTERISTICS unless otherwise noted, $V_s = 10,00\text{ V}$ , $t_{amb} = 25^\circ\text{C}$

Characteristics	Min.	Typ.	Max.	Unit
Zero pressure offset	-2	0	2	mV
Full scale span <sup>4</sup>	PS9005G... all other devices	48 98	50 100 52 102	
Non-linearity <sup>5</sup>		±0.1	±0.25	%FSO
Pressure hysteresis <sup>5</sup>		±0.015	±0.030	
Thermal effects (0°C to 82°C) <sup>6</sup>	PS9005G... all other devices	Offset	±2.0	
		Span	±2.0	
		Offset	±0.5	
		Span	±0.5	
Thermal hysteresis (0°C to 82°C)		±0.1	±0.3	
Repeatability		±0.010	±0.030	
Long term stability of offset and span <sup>7</sup>		±0.1	±0.3	
Response time (10 % to 90 %) <sup>8</sup>		0.1		ms
Input impedance	8.0	25	50	kΩ
Output impedance	3.0	4.5	6.0	
Common mode output voltage	0.3		5.0	V

### RECOMMENDED MATING CONNECTOR M12 X 1 (order number ZP000112-B)

Connector NOT included in delivery!



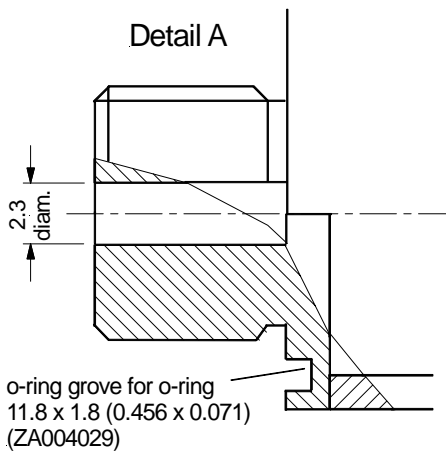
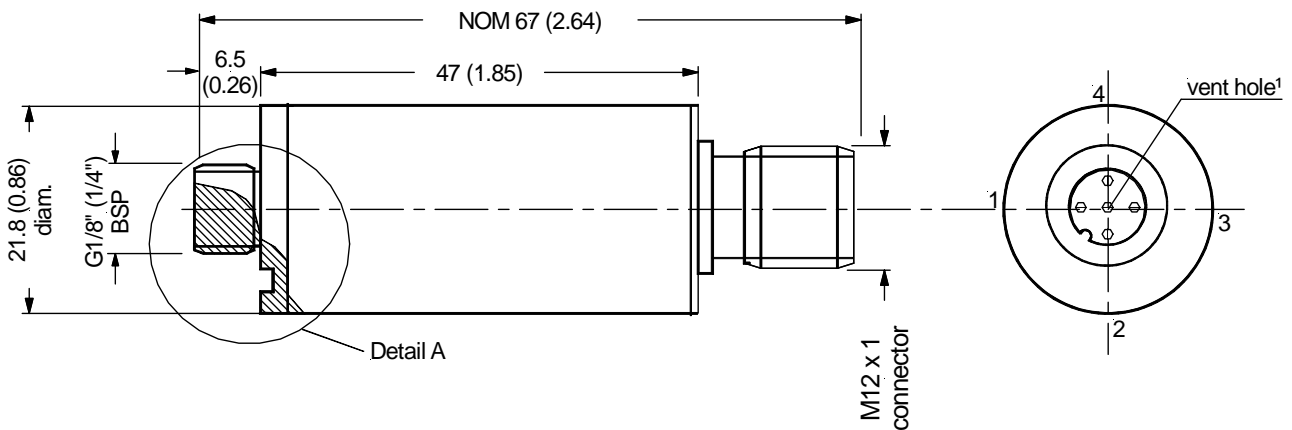
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### Specification notes:

1. IP54 (NEMA4X) protection is given when the connector is locked. For proper function the gage port is vented to the atmosphere through the connector/cable assembly. Thus the cable end must have access to the ambient pressure.
2. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
3. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer case.
4. Span is the algebraic difference between the output voltage at full scale pressure and the output at zero pressure. Span is ratiometric to the supply voltage
5. Linearity is based on **Best fit Straight Line**. Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure.
6. Maximum error band of the offset voltage or span over the compensated temperature range, relative to the 25°C reading.
7. Long term stability over a one year period.
8. Response time for step change from the zero pressure to the full scale pressure.
9. Other materials on special request. When using devices with optional nickel plated fittings, consider the media compatibility of the fittings also.

### OUTLINE DRAWING



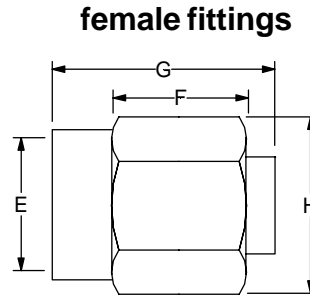
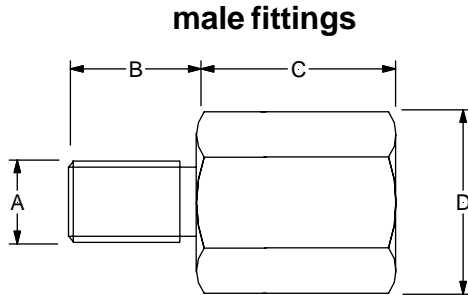
ELECTRICAL CONNECTION	
Pin	Connection
1	+Vs
2	Vout+
3	Vout-
4	-Vs

dimensions in mm (inches)

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### OPTIONAL PRESSURE FITTINGS



Dimensions in mm (inches)			
A	B	C	D (Hex.)
1/8" BSPT	8 (0.315)	13 (0.512)	14 (9/16")
1/4" BSPT	12 (0.472)	5.5 (0.217)	14 (9/16")
3/8" BSPT	11.5 (0.453)	5 (0.197)	17 (11/16")
1/2" BSPT	16 (0.630)	7 (0.276)	22 (7/8")
1/8" BSP	12.5 (0.492)	11 (0.433)	14 (9/16")
1/4" BSP	8.5 (0.335)	5 (0.197)	19 (3/4")
3/8" BSP	12.5 (0.492)	7 (0.276)	22 (7/8")
1/8" NPT	10 (0.394)	13 (0.512)	17 (11/16")
1/4" NPT	14 (0.551)	6 (0.236)	22 (7/8")

Dimensions in mm (inches)			
E	F	G	H (Hex.)
1/8" BSP	5 (0.197)	15 (0.591)	14 (9/16")
1/4" BSP	7 (0.276)	20 (0.787)	17 (11/16")
3/8" BSP	6 (0.236)	20 (0.787)	22 (7/8")
1/2" BSP	18 (0.707)	23 (0.906)	24 (15/16")

### ORDERING INFORMATION

**PS9000 Series** ————— **PS9** ————— **xxx** ————— **X** ————— **X**

**Pressure mode**  
**A:** absolute pressure  
**G:** gage pressure  
**V:** vacuum/gage pressure

**Fitting size**  
**D:** 1/8" BSPT male, brass, nickel plated  
**E:** 1/4" BSPT male, brass, nickel plated  
**F:** 3/8" BSPT male, brass, nickel plated  
**G:** 1/2" BSPT male, brass, nickel plated  
**K:** 1/8" NPT male, brass, nickel plated  
**L:** 1/4" NPT male, brass, nickel plated  
**M:** 1/8" NPT male, SS 1.4305 (303)  
**N:** 1/4" NPT male, SS 1.4305 (303)  
**P:** G 1/8" (BSP) male, brass, nickel plated  
**Q:** G 1/4" (BSP) male, brass, nickel plated  
**R:** G 3/8" (BSP) male, brass, nickel plated  
**S:** G 1/2" (BSP) male, brass, nickel plated  
**U:** G 1/8" (BSP) female, brass, nickel plated  
**V:** G 1/4" (BSP) female, brass, nickel plated  
**W:** G 3/8" (BSP) female, brass, nickel plated  
**X:** G 1/2" (BSP) female, brass, nickel plated  
**Y:** G 1/8" (BSP) male, SS 1.4305 (303)  
 no optional fitting

**Note 10:** also available as vacuum/gage version

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